

Product Index—Transmission and Distribution Environmental Issues

To maintain safe and reliable grid operation, power companies must minimize environmental impacts from power delivery systems and manage the risk those systems may pose to the health of humans and other species. These challenges are magnified by an expanding and aging electric transmission and distribution (T&D) infrastructure, and new rights-of-way (ROW) standards.

The Electric Power Research Institute's Transmission and Distribution Environmental Issues program (P51) helps power companies meet these challenges by conducting research on substation environmental issues, utility pole assessment and impact, avian and animal interactions with powerlines and substation equipment, vegetation management (VM) and inspection techniques, remote sensing and new technologies for environmental applications, transmission siting, construction, and maintenance environmental issues; and emerging contaminants and PCB mitigation and remediation.

Quick access to a library of relevant results from the program is available here.

To select a specific research area, click on an entry in the topical index at right.

To view the abstract of a publication, click on the publication number or go to

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Ex Situ Bioremediation of Mineral Oil in Soils: Land Treatment and Composting	★	TR-108561	1998
Innovative Technologies for Remediation of Arsenic in Soil and Groundwater: Soil Flushing, In-Situ Fixation, Iron Coprecipitation, and Ceramic Membrane Filtration	★	TR-106701	1997
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Sites A to Z: A Reference Manual for Site Risk Analysis	★	TR-104168	1994
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Pole Preservatives in Soils Adjacent to In-Service Utility Poles in the United States	★	TR-108598	1997
Pentachlorophenol (PCP) in Soils Adjacent to In-Service Utility Poles in New York State	★	TR-104893	1995
Biodegradability of Pentachlorophenol in the Environment: A Literature Review	★	TR-102172	1993
Creosote-Treated Wood Poles and Crossarms: Toxicity Characteristic Leaching Procedure (TCLP) Results	★	TR-100870	1992
Avian and Animal Interactions with Utility Infrastructure			
Best Management Practices for Line Marking: Reducing Avian Collisions with Power Lines		3002024724	2022
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Power Line Collision Mitigation and Avian Vision	3002008529	2017
Animal-Caused Outages in Substations: Problems and Solutions	★ 3002008528	2016
Conductor Cover Selection: An Animal Outage Device Selection Process to Maximize Installation Ease, System Compatibility, and Overall Performance	★ 3002006333	2016
Animal Activity Monitor (AAM) Prototype Development	★ 3002008530	2016
Avian Species and the Electric Power Sector: Potential Research and Technology Gaps Related to Proposed Migratory Bird Treaty Act Permitting	3002007005	2015
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Effectiveness and Durability of Products to Prevent Animal-Caused Outages: A Framework for Product Testing	3002001185	2013
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Selection and Testing of an Internet Protocol Video Camera for the Bird Activity Monitor	★ 1019882	2010
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Use of the Bird Strike Indicator to Monitor Avian Collisions with Guy Wires on a U.S. Coast Guard Differential GPS Tower	★ 1010130	2006
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Bird Strike Indicator/Bird Activity Monitor and Field Assessment of Avian Fatalities: Project Update – March 2004	★ 1005551	2004
Bat Interactions with Wind Turbines at the Buffalo Ridge, Minnesota Wind Resource Area: An Assessment of Bat Activity, Species Composition and Collision Mortality	★ 1009178	2003
Bird Strike Indicator / Bird Activity Monitor and Field Assessment of Avian Fatalities	★ 1005385	2003
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Radar Electro-optical and Visual Methods of Studying Bird Flight Near Transmission Lines	★	EA-4120	1985
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Pollinator Diversity on Powerline Corridors in New York and Ohio: Study Initiation	★	3002008535	2016
Plant Community Development on Electric Transmission Line Rights-of-Way With/Without Attention to Controlling Invasive, Exotic Plants: A Long-Term Collaborative Research Project with FirstEnergy: Year 3	★	3002007045	2015
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Literature Syntheses of Select Invasive Exotic Plants Common on Electric Transmission Line Rights-of-Way: Biology and Ecology		3002007046	2015
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Plant Community Development on Electric Transmission Line Rights-of-Way with/without Attention to Controlling Invasive Exotic Plants: A Long-Term Collaborative Research Project with FirstEnergy on the Cuyahoga Valley National Park	★	3002004307	2014
Transmission Right-of-Way Steward Pilot Audit Report—New York Power Authority		3002004308	2014
Inspection Technology for Vegetation Management: Overview of GeoDigital International LiDAR Inspection Approach	★	3002003573	2014
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NYPA Uses EPRI Workshop to Develop Integrated Vegetation Management Strategy for Invasive Plant Species on Rights-of-Way	★	1025030	2012
Management of Riparian Areas on Electric Transmission Line Rights-of-Way	★	1021826	2011

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Hawaiian Electric Company Herbicide Efficacy Study	★	1020949	2010
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SUSTAINABILITY: A Central Principle for the Electric Utility Industry Available Through Vegetation Management on Transmission Rights-of-Way	★	1017963	2009
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Electric Transmission Right-of-Way Invasive Non-Native Woody Plant Species Control	★	1010127	2006
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Human Health Risk Assessment of Chemicals Encountered in Vegetation Management on Electric Utility Rights-of-Way	★	1005367	2003
Wildlife and Integrated Vegetation Management on Electric Transmission Line Rights-of-Way	★	1005366	2002
Rights-of-Way Mechanical Cutting and Disposal Costs – Update 2001	★	1005186	2001
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Cost Comparison of Rights-of-Way Treatment Methods: Update 2000	★	1000270	2000
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Tree Growth Regulators for Management of Trees in Electric Utility Rights-of-Way: A Literature and Current Application Status Review	★	1000317	2000
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Natural Growth Inhibitors (Allelopathy): Literature Review	★	1000268	2000
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Vegetation Dynamics Along Utility Rights-of-Way Factors Affecting the Ability of Shrub and Herbaceous Communities to Resist Invasion by Trees	★	TR-113377	1999
Remote Sensing and New Technologies			
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